

REMARKS/ARGUMENTS

In response to the subject Office action dated April 25, 2006, Applicants have added new claims 4-9 while original claims 1-3 remain pending in the present application. Applicants assert that the new claims are supported by the original specification and do not introduce new subject matter. Moreover, the amendments and arguments made herein should be admissible after final rejection as not presenting new issues.

In the subject Office action, the Examiner maintained the same rejection and characterization of the cited references as in the prior Office action of September 22, 2005. Claims 1-3 were rejected under 35 U.S.C. 103(a) as being unpatentable over Parthasarathy et al. (US 6,251,815) in view of Yang (US 5,549,151).

Turning to independent claim 1, the claim recites in part a fiber-reinforced metal-ceramic composite material comprising a graded ceramic-metal zone wherein ceramic content ranges from 100% at a hot ceramic side to 0% at a cool metal side and the metal content of the composite ranges from 0% at the hot ceramic side to 100% at the cool metal side.

The Examiner considered but found unpersuasive the arguments made by Applicants' representative on 10 January 2006 regarding the rejection of claim 1. In particular, the Examiner responded that "Applicant argues that Pathasarathy does not teach the use of metal in forming the composite. Applicant states that the use of a metal region greatly enhances composite properties such as thermal conductivity and/or load bearing capacity however this argument is not commensurate in scope with the claims."

As previously noted, Applicants assert however that the 0% metal content at the hot ceramic side and the 100% metal content at the cool metal side is not taught by either of the cited references. Thus, a further modification is required to achieve the claimed invention. Importantly, the Examiner has failed to point out a motivation or suggestion in the prior art that would lead one to make such a further modification to the combination of Pathasarathy and Yang in order to realize the claimed invention. Applicants assert that such a suggestion or motivation does not exist insofar as the

cited references were not addressing the unique problems of high differential temperature applications with less tendency to fracture when struck hard or cooled or heated rapidly. Thus a prima facie case of obviousness has not been made. Consequently, reconsideration and allowance of claim 1, as well as claims 2-3 that depend therefrom, is respectfully requested.

Turning to new independent claim 4, the claim is identical to original claim 1 with the following appended: "to withstand a temperature differential of at or greater than 100°C wherein said metal content comprises material selected for thermal conductivity." While metals are generally known for thermal conductivity, this further recitation clarifies a particular structural advantage of the claimed invention not contemplated by the prior art. Applicants introduce this clarification of an inherent property of the graded 0% to 100% metal content as suggested by the Examiner to expedite the case toward allowance and issue. Claims 5-6 that depend from claim 4 are otherwise identical to claims 2-3.

Turning to new independent claim 7, the claim is identical to original claim 1 with the following appended: "to withstand a temperature differential of at or greater than 100°C wherein said metal content comprises material selected for loading bearing capacity." While metals are generally known for load bearing capacity, this further recitation clarifies a particular structural advantage of the claimed invention not contemplated by the prior art. Applicants introduce this clarification of an inherent property of the graded 0% to 100% metal content as suggested by the Examiner to expedite the case toward allowance and issue. Claims 8-9 that depend from claim 7 are otherwise identical to claims 2-3.

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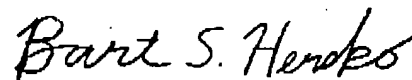
Amdt. dated 6/16/06

Reply to Office action of 4/25/06

Conclusions

In light of the above amendments and foregoing remarks, Applicants believe that Claims 1-9 are now in form for allowance. Accordingly, it is respectfully requested that the claims be reconsidered, the rejections under 35 U.S.C. 103(a) be withdrawn, and the claims as amended herein be allowed. Should the Examiner have any questions or wish to further discuss this matter, it is requested that the undersigned attorney be contacted at (937) 904-5031.

Respectfully submitted,



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